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ABSTRACT

Educational services are now, and will be in the future, delivered via many alternative technologies. In Wisconsin, a variety of video-based alternative delivery systems are being used, such as broadcast television, instructional television fixed service, cable television, interactive computer video, and satellite earth stations. The primary need of the state colleges was to acquire or develop quality video-based courses for use in these systems. To deal with this problem, a telecommunications consortium was established in 1979 through an informal agreement between the 16 Wisconsin Vocational Technical Adult Education (VTAE) districts, the Wisconsin Board of VTAE, and the Wisconsin Foundation for VTAE. Through this structure, the districts have acquired 13 video-based courses on topics such as marketing, electricity, and literacy. The cost of the materials is shared by those who participate in using them and is lowered by sales of the materials to high schools and other markets nationwide. Benefits accrued through the consortium approach include cost savings, the ability of the VTAE districts to begin delivery of courses via alternative systems, a larger market, the beginning of development of a national distributive system for VTAE-produced video-based courses, and a forum for bringing VTAE system staff together to discuss current and future alternative delivery technologies. The consortium is now installing satellite earth stations at each of its major campuses and is considering other ways to meet the educational delivery needs of the future. (KC)

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DELIVERING TECHNICAL EDUCATION IN WISCONSIN IN THE INFORMATION AGE

AVA CONVENTION 1983 - ANNAHEIM

EDUCATIONAL SERVICES ARE NOW AND WILL IN THE FUTURE BE DELIVERED VIA MANY ALTERNATIVE TECHNOLOGIES. TECHNOLOGIES CURRENTLY AVAILABLE AND IN USE INCLUDE: RADIO, BROADCAST TELEVISION, CABLE TELEVISION, LOW POWER TELEVISION, INTERACTIVE COMPUTER VIDEO, INSTRUCTIONAL TELEVISION FIXED SERVICE, TELETEXT AND VIDEO TEXT, TWO WAY INTERACTIVE CABLE, SATELLITE TELECONFERENCING AND INTERACTIVE COMPUTER NETWORKS.

IN WISCONSIN WE ARE USING A VARIETY OF VIDEOBASEL ALTERNATIVE DELIVERY SYSTEMS INCLUDING: BROADCAST TELEVISION, INSTRUCTIONAL TELEVISION FIXED SERVICE, CABLE TELEVISION, INTERACTIVE COMPUTER VIDEO AND SATELLITE EARTH STATIONS.

IN CONSIDERING THE USE OF ALTERNATIVE DELIVERY SYSTEMS TWO PROBLEMS BECOME READILY APPARENT: YOU NEED A SYSTEM; YOU NEED SOFTWARE FOR THE SYSTEM. IN MOST INSTANCES THE SECOND PROBLEM IS THE MOST DIFFICULT.

I WOULD GUESS, THAT IF YOU WANTED TO BEGIN DELIVERING INSTRUCTION IN ONE OF THE WAYS MENTIONED ABOVE, IT WOULD BE ALMOST IMPOSSIBLE FOR YOU TO NOT FIND A SYSTEM ALREADY IN PLACE, OR BEING CONSTRUCTED. THERE ARE 287 PUBLIC TELEVISION STATIONS IN THE UNITED STATES. THERE ARE HUNDREDS OF OTHER COMMERCIAL STATIONS. MANY ARE WILLING TO COOPERATE WITH EDUCATIONAL INSTITUTIONS IN PROGRAM DELIVERY.

CURRENTLY TWENTY-NINE MILLION HOMES OR 35% OF THE NATION'S HOUSEHOLDS ARE WIRED FOR CABLE T.V. NEW HOUSEHOLDS ARE BEING WIRED AT A RATE OF 250,000/MONTH. MANY SYSTEMS HAVE OVER 100 CHANNELS.

WHEN WE BEGAN OUR EFFORTS TO DELIVER INSTRUCTION VIA ALTERNATIVE METHODS, WE WERE FORTUNATE TO HAVE A PUBLIC TELEVISION SYSTEM AND MANY CABLE SYSTEMS READILY AVAILABLE AND WILLING TO COOPERATE. WE, THEREFORE, COULD FOCUS OUR ATTENTION ON THE PRIMARY PROBLEM OF ACQUIRING AND DEVELOPING QUALITY VIDEO-BASED COURSES FOR USE IN THESE SYSTEMS. TO DEAL WITH THIS PROBLEM, IN OCTOBER 1979, WE ESTABLISHED A TELECOMMUNICATIONS CONSORTIUM.

THE WISCONSIN VOCATIONAL, TECHNICAL AND ADULT EDUCATION SYSTEM CONSISTS OF 16 DISTRICTS. THERE ARE 34 MAJOR CAMPUSES AND THE SYSTEM ENROLLS ABOUT 60,000 FULL-TIME EQUIVALENT STUDENTS EACH YEAR. THE CONSORTIUM WAS ESTABLISHED THROUGH AN INFORMAL AGREEMENT BETWEEN THE SIXTEEN WISCONSIN VTAE DISTRICTS, THE WISCONSIN BOARD OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION AND THE WISCONSIN FOUNDATION FOR VTAE, INC. IT PROVIDES AN ORGANIZATIONAL STRUCTURE THROUGH WHICH THE SIXTEEN VTAE DISTRICTS CAN COOPERATIVELY IDENTIFY, PLAN, FUND, PRODUCE AND/OR ACQUIRE MUTUALLY NEEDED AUDIO-VISUAL INSTRUCTIONAL MATERIALS.

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THE CONSORTIUM STRUCTURE HAS BEEN VERY SUCCESSFUL IN FACILITATING JOINT PRODUCTION/ACQUISITION EFFORTS AND THUS HAS HELPED REDUCE DUPLICATE PRODUCTION AND HAS HELPED INCREASE THE QUALITY OF THE VIDEO-BASED COURSES PRODUCED. IT HAS ALSO SUBSTANTIALLY REDUCED THE COST OF COURSES ACQUIRED FROM COMMERCIAL VENDORS. AMONG THE ITEMS PRODUCED OR ACQUIRED ARE 13 VIDEO-BASED COURSES, INCLUDING:

1. "MARKETING PERSPECTIVES - AN INTRODUCTION TO MARKETING"
2. "GENERAL EDUCATION DEVELOPMENT SERIES"
3. "BASIC ELECTRICITY AND DC CIRCUITS"
4. "BASIC AC CIRCUITS"
5. "THE BUSINESS OF MANAGEMENT - AN INTRODUCTION TO MANAGEMENT"
6. "MANUFACTURING PROCESSES AND MATERIALS"
7. "LITTLE COMPUTERS - BUSINESS COMPUTING - BASIC PROGRAMMING"
8. "ANOTHER PAGE - PRE GED READING"
9. "PSYCHOLOGY OF HUMAN RELATIONS"
10. "PERSONAL FINANCE AND MONEY MANAGEMENT"
11. "YOU AND THE LAW"
12. "MOD-U-MATH - BASIC MATH REVIEW"
13. "THE NEW LITERACY - AN INTRODUCTION TO COMPUTERS"

THE CONSORTIUM HAS PROVIDED THE WISCONSIN VOCATIONAL, TECHNICAL AND ADULT EDUCATION SYSTEM WITH VIDEOBASED MATERIALS THAT CAN BE USED IN A VARIETY OF WAYS INCLUDING:

1. IN CLASSROOMS AS INDIVIDUALIZED SUPPLEMENTS TO TRADITIONAL INSTRUCTION;
2. IN LIBRARIES AS INDIVIDUALIZED LEARNING PACKAGES;
3. ON-SITE AS PART OF BUSINESS AND INDUSTRIAL TRAINING PROGRAMS;
4. IN PUBLIC BROADCAST OR IN CABLE TELEVISION SYSTEMS;
5. IN OTHER ALTERNATIVE DELIVERY SYSTEMS AS THEY DEVELOP.

IN ORDER TO ACQUIRE AND DEVELOP THESE MATERIALS WE HAVE STRUCTURED A CONSORTIUM THAT IS A MARKET DRIVEN COOPERATIVE. THE CONSORTIUM FUNCTIONS IN THE FOLLOWING MANNER.

1. STAFF IDENTIFY PRODUCTION AND/OR ACQUISITION PROJECTS OF INTEREST TO VTAE DISTRICTS.

2. STAFF REVIEW WITH CONSORTIUM MEMBERS AND WITH OTHER APPROPRIATE INDIVIDUALS AND GROUPS POTENTIAL ACQUISITION/PRODUCTION PROJECTS.

3. AFTER STAFF HAS DETERMINED THAT THERE IS SUBSTANTIAL INTEREST ON THE PART OF VTAE DISTRICTS IN A PARTICULAR ACQUISITION OR PRODUCTION, STAFF ATTEMPT TO NEGOTIATE AN APPROPRIATE STATEWIDE OR MULTIPLE DISTRICT USAGE RIGHTS PACKAGE, OR TRY TO ARRANGE FOR PRODUCTION.

4. A PARTICIPATION FEE SCHEDULE IS ESTABLISHED FOR EACH DISTRICT BASED UPON FTE ENROLLMENTS. THIS FEE WILL BE ESTABLISHED SO AS TO COVER ACQUISITION OR PRODUCTION EXPENSES AS WELL AS TO ATTEMPT TO PROVIDE A REASONABLE AMOUNT FOR FUTURE PRODUCTION-ACQUISITION-DISTRIBUTION ACTIVITIES.

5. USAGE RIGHTS FOR COURSES ARE ALSO MADE AVAILABLE TO HIGH SCHOOLS OR OTHER EDUCATIONAL INSTITUTIONS ON A FEE BASIS.

6. GIFTS OR GRANTS FOR PRODUCTION AND/OR ACQUISITION ARE SOUGHT SO AS TO REDUCE OR PERHAPS ELIMINATE THE USAGE FEES TO INDIVIDUAL SCHOOL DISTRICTS.

7. AFTER IT HAS BEEN DETERMINED THAT FUNDING IS AVAILABLE FOR A PARTICULAR PRODUCTION OR ACQUISITION PROJECT, THE PROJECT PROCEEDS AND MATERIALS ARE DISTRIBUTED TO PARTICIPATING DISTRICTS.

8. DISTRICTS OR OTHER ORGANIZATIONS THAT DO NOT PAY THE PARTICIPATION FEE ARE NOT ALLOWED TO USE THE MATERIALS.

9. MATERIALS THAT WE PRODUCE ARE SOLD NATIONALLY AND REVENUES GENERATED ARE SHARED WITH PARTICIPATING DISTRICTS.

10. REVENUES FROM NATIONAL SALES AND DISTRICT PARTICIPATION FEES FUND OUR EFFORTS. THERE ARE NO UP-FRONT PARTICIPATION FEES. PARTICIPATION IN ANY ACQUISITION OR PRODUCTION PROJECT IS VOLUNTARY.

11. THE CONSORTIUM IS ADMINISTERED THROUGH OUR FOUNDATION WHICH IS A NON-PROFIT, NON-STOCK, TAX EXEMPT CORPORATION.

THIS STRUCTURE ALLOWS US TO ACQUIRE OR DEVELOP MATERIALS IN TWO WAYS:

1. OUTSIDE FUNDING IS SECURED AND COPIES OF THE MATERIALS ARE SOLD AT VERY LOW COST OR COPIES MAY BE MADE OFF-AIR FOR FREE.

2. A PARTICIPATION FEE IS ESTABLISHED AND ONLY THOSE DISTRICTS PAYING THE FEE MAY USE THE MATERIALS AND/OR SHARE IN REVENUES GENERATED FROM NATIONAL SALES.

BENEFITS

1. IT HAS ENABLED OUR SYSTEM TO COOPERATIVELY PRODUCE OR ACQUIRE NEEDED AUDIO-VISUAL MATERIALS AT GREAT SAVINGS. AS AN EXAMPLE OF THESE SAVINGS, OVER 200 SETS OF THE AC-DC COURSES ARE NOW IN USE BY TECHNICAL INSTITUTES AND HIGH SCHOOLS THROUGHOUT THE STATE. IF WE HAD NOT PRODUCED THIS SERIES AND IF ALL THE SCHOOLS NOW USING OUR AC-DC SERIES WOULD HAVE PURCHASED ALTERNATIVE MATERIALS AT PREVAILING MARKET RATES, THE COST WOULD HAVE BEEN $1,200,000. WE INVESTED $400,000 IN THE PROJECT. IN ADDITION WE HAVE BEEN DISTRIBUTING THIS SERIES NATIONALLY FOR THE PAST THREE YEARS AND TOTAL SALES ARE NOW OVER $400,000.

2. IT HAS PROVIDED VTAE DISTRICTS WITH VIDEO MATERIALS NEEDED TO BEGIN DELIVERY OF COURSES VIA TELEVISION, CABLE AND OTHER ALTERNATIVE DELIVERY SYSTEMS. LAST YEAR NEARLY 2,700 WISCONSIN ADULTS ENROLLED IN VIDEO-BASED COURSES DELIVERED VIA BROADCAST AND CABLE.

3. IN PROVIDING THIS SOFTWARE, IT HAS MADE US AWARE THAT ALTERNATIVE DELIVERY SYSTEMS ALLOW US TO REACH LARGE NUMBERS OF ADULTS NOT PREVIOUSLY SERVED BY OUR SYSTEM. FOR EXAMPLE DEPENDING UPON THE COURSE, UP TO 70% OF THE PEOPLE WHO ENROLLED IN VIDEO COURSES VIA TELEVISION AND CABLE HAD NEVER TAKEN A COURSE AT A TECHNICAL SCHOOL BEFORE. THESE ARE PEOPLE WHO BECAUSE OF DISTANCE, FAMILY OR WORK RESPONSIBILITIES, OR LACK OF CONFIDENCE COULD NOT OR WOULD NOT TAKE AN ON-CAMPUS COURSE.

4. IT HAS ALLOWED US TO BEGIN THE DEVELOPMENT OF A NATIONAL DISTRIBUTION SYSTEM FOR VTAE PRODUCED VIDEO-BASED COURSES. THIS WILL HOPEFULLY BECOME AN IMPORTANT SOURCE OF REVENUE FOR THE FUTURE.

5. IT PROVIDES SOFTWARE THAT CAN BE USED IN INTERACTIVE VIDEO, MICROWAVE, ITFS, SATELLITE AND OTHER ALTERNATIVE DELIVERY SYSTEMS AS THEY DEVELOP.

6. IT PROVIDES A FORUM FOR BRINGING WISCONSIN VTAE SYSTEM STAFF TOGETHER TO DISCUSS NOT ONLY PRODUCTION AND ACQUISITION OF AUDIO-VISUAL MATERIALS BUT CURRENT AND FUTURE ALTERNATIVE DELIVERY TECHNOLOGIES.

THE FUTURE

OF ONE THING WE ARE CONVINCED: IT IS NO LONGER A QUESTION OF WHETHER INSTRUCTION WILL BE PROVIDED BY ALTERNATIVE MEANS, BUT RATHER WHO WILL PROVIDE IT, AND HOW. WHILE WE HAVE FOCUSED UPON VIDEO-BASED INSTRUCTIONAL SOFTWARE, THAT IS ONLY THE BEGINNING. WE ARE NOW TURNING OUR ATTENTION TO OTHER ALTERNATIVE SYSTEMS AND SOFTWARE TO RUN THOSE SYSTEMS.

OUR MOST RECENT PROJECT IS THE INSTALLATION OF SATELLITE EARTH STATIONS AT EACH OF OUR MAJOR CAMPUSES. BY EARLY NEXT YEAR WE WILL HAVE TWENTY INSTALLED. THEY WILL BE USED FOR:

1. SATELLITE TELECONFERENCING;
2. RECEIVING INSTRUCTIONAL PROGRAMMING FROM A VARIETY OF SOURCES.

INCLUDED AMONG THOSE NATIONAL PROGRAMMING SOURCES ARE THE LEARNING CHANNEL, BIZ-NET, PUBLIC SERVICE SATELLITE CONSORTIUM, PUBLIC BROADCASTING SERVICE-ADULT LEARNING SERVICE AND TELECONFERENCING SERVICE, THE INTERNATIONAL UNIVERSITY CONSORTIUM, THE NATIONAL UNIVERSITY TELECONFERENCING NETWORK, THE CENTRAL EDUCATIONAL NETWORK, AND THE PUBLIC SERVICE SATELLITE CONSORTIUM-CAMPUS CONFERENCE NETWORK.

IN THE FUTURE WE MUST ALSO CONSIDER OTHER POTENTIAL SYSTEMS. CURRENTLY THERE ARE TEN MILLION MICROCOMPUTERS IN THE U.S. BY THE END OF 1984 THAT NUMBER WILL EXCEED 30 MILLION. CAN QUALITY INSTRUCTION BE PROVIDED BY NATIONAL AND INTERNATIONAL COMPUTER NETWORKS? EDUCATORS WHO DISMISS THIS QUESTION BY ANSWERING NO ARE BEING NAIVE. IN SEPTEMBER, TELE-LEARNING SYSTEMS INC. ANNOUNCED THE FORMATION OF THE TELE-LEARNING NETWORK, CLAIMING THAT WITHIN THREE YEARS IT WILL BE USED TO EDUCATE MORE PEOPLE THAN ANY OTHER PRIVATE EDUCATIONAL INSTITUTION IN THE WORLD.

TELE-LEARNING WILL COMBINE THE APPROACH OF TRADITIONAL CORRESPONDENCE COURSES WITH THE MODERN TECHNOLOGY OF COMPUTER TO COMPUTER COMMUNICATIONS. RONALD F. GORDON, CHAIRMAN OF THE COMPANY, SAID THAT THEY HOPE TO SELL A COURSE TO EVERYONE WHO HAS OR BUYS A PERSONAL COMPUTER. THE FIRST 40-50 COURSE OFFERINGS DEAL MOSTLY WITH COMPUTER LITERACY.

PETER DRUCKER RECENTLY STATED:

> "CONTRARY TO WHAT MOST EDUCATORS BELIEVE, THE DEMAND FOR EDUCATION IS GOING UP NOT DOWN. WHAT IS GOING DOWN IS THE DEMAND FOR EDUCATION DELIVERED IN TRADITIONAL WAYS."

THE KEY TO DELIVERY OF EDUCATION VIA ALTERNATIVE TELECOMMUNICATIONS SYSTEMS IS DEVELOPING THE PROGRAMMING FOR THESE SYSTEMS.

THE KEY TO DEVELOPING THE PROGRAMMING IS COOPERATION. I CAN DELIVER A TELECONFERENCE OR VIDEO PROGRAM ON ANY PARTICULAR TOPIC TO 20 WISCONSIN VTAE CAMPUSES VIA SATELLITE FOR LESS THAN $500/HOUR. THAT IS ONLY $25/CAMPUS. I CAN DELIVER THE SAME PROGRAM TO THE ENTIRE U.S. FOR THE EXACT SAME AMOUNT.

WHEN ONE CONSIDERS THE EXTENSIVE NEED FOR FACULTY UPGRADING ALONE ON A VARIETY OF TOPICS, A SATELLITE NETWORK MAKES A GREAT DEAL OF SENSE. THAT, OF COURSE, WOULD ONLY BE THE BEGINNING.

HOPEFULLY, AS THE USE OF SATELLITE DISHES BECOMES MORE COMMON, WE WILL BE ABLE TO JOIN TOGETHER TO FORM NATIONAL CONSORTIA AND NETWORKS TO HELP MEET VARIOUS EDUCATIONAL NEEDS. WE NEED NOT CONCERN OURSELVES WITH DEBATING THE QUESTION OF WHETHER IT WILL HAPPEN BUT ONLY THE QUESTION OF WHETHER WE SHOULD AND WILL BE A PART OF IT.

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